

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Acceleration of Broadband Deployment:)	WC Docket No. 11-59
Expanding the Reach and Reducing the Cost of)	
Broadband Deployment by Improving Policies)	
Regarding Public Rights of Way and Wireless)	
Facilities Siting)	
)	

REPLY COMMENTS OF ISOTROPE, LLC

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Isotrope, LLC (“Isotrope”) is a communications technology consulting firm that maintains a strong specialization in municipal wireless consulting. Principal and CEO David P. Maxson, WCP® has been providing municipalities, non governmental entities, individuals, and industry corporations with consulting services in the placement, construction and modification of personal wireless service facilities since 1988. He has participated in about 500 individual municipal wireless facility siting engagements. Isotrope has been an active member of the PCIA (the wireless infrastructure association) DAS Forum, and is a member of the National Association of Tower Erectors. In the matter of broadband wireless communications it is of note that Isotrope recently completed a 9000 mile drive test benchmarking the broadband data speeds of mobile wireless services throughout the state of Utah. This project was administered by the State of Utah under the auspices of the federal State Broadband Initiative (“SBI”) funded through the NTIA.

Isotrope is grateful for the opportunity to respond to the inaccurate and one-sided complaints regarding municipal wireless consultants that have been lodged by some commenters in this proceeding.

The Comments of Verizon and Verizon Wireless (“Verizon”), July 18, 2011, say, “Increasingly, local jurisdictions have hired consultants to help them draft new wireless facilities siting ordinances.” We have been assisting municipalities with the modification of wireless facility ordinances since the late 1990’s. We do not see a trend that supports the idea that this is an “increasing” phenomenon. For instance, in 1999, we were engaged in a master planning project by the Cape Cod Commission, the Cape Cod National Seashore and the eight towns of the lower cape, to review the local regulations, evaluate the

then-current state of wireless coverage and wireless facility deployment, and generate a report. The result, The State of Wireless Facilities on Lower Cape Cod,¹ is a nearly 100 page report outlining the obstacles and opportunities for the growth of wireless facility deployments on lower Cape Cod. The towns relied on the report to guide their wireless bylaw revision processes. In the decision in a federal suit brought by Nextel against one of the towns, the court cited the facts in the report. Since then, Isotrope has been a consultant to the Cape Cod Commission on application processes for those larger wireless tower placements that qualify as Developments of Regional Impact (“DRI”). Numerous towers of various heights and designs have been approved in the past decade.

Isotrope has also assisted numerous municipalities in modifying their wireless facility regulations. In 1997, when the Telecommunications Act of 1996 (“TCA”) was new, there was a blast of activity as communities created wireless regulations from scratch in the fledgling regulatory environment. As communities found how things work, and didn’t work, there has been a constant appetite for modifying regulations to better anticipate future facility deployments. Early regulations often anticipated the wireless vocabulary of the time, the 150 to 199 foot tall cell tower, and made accommodations for them largely in nonresidential districts and remote areas. As the nature of wireless facilities changed, with more facilities placed more closely together, some local regulations were requiring extraordinary relief through variances and other special actions. Communities frequently turn to experts to help them craft their regulations and change them.

Verizon continues, “These consultants purport to understand the law pertaining to wireless facilities siting and craft ordinances designed to “protect communities” without violating the limitations in § 332(c)(7)(B) of the Act.” This statement does not apply to Isotrope. Communities seek to balance their obligations (and their residents’ desires) to enable the provision of wireless service with their duties (yes, duties codified in local zoning codes) to maintain an orderly and kempt environment and a favorable quality of life. As municipal wireless consultants with years of experience, we see language in wireless regulations that works and that doesn’t work so well. We are cognizant of the TCA’s role in permit proceedings from first hand observation. We are uniquely equipped to offer constructive suggestions that will make the zoning process of wireless facility siting go more smoothly.

Verizon also says, “At the same time, these consultants often review complex technical engineering and legal documents without having the requisite expertise to do so.” We are not aware of who “these consultants” are. Isotrope keeps up to date with the technical literature and incorporates technical and scientific best practices into its work. Isotrope principal David P. Maxson may be the only municipal wireless consultant in the USA who has earned the recognition of the wireless industry with the

¹ http://isotrope.im/blog/white_papers/LowerCapeCod-wireless.pdf - This document was produced under the auspices of the predecessor to Isotrope, LLC which was the wireless division of Broadcast Signal Lab, LLP.

wireless communications engineering technology professional's certification ("WCP®")². Verizon's assertion about consultants and their qualifications is inappropriately generalized.

Verizon also seems to blame wireless consultants for wireless regulations it does not like, "These ordinances [that consultants helped draft] generally require special use permits for all wireless facilities applications, making no distinctions between new towers, collocations on existing structures, or modifications of existing antennas." This is a gross generalization unsubstantiated by any data. We will speak to the distinctions between new towers and collocations further below. As for modifications of existing antennas, there is an implicit presumption that distinctions should always be made explicitly in the regulations between such modifications and new facility implementations. This is an oversimplification, which we illustrate by example.

Isotrope just completed a review of a pair of applications by Verizon Wireless in the Town of Weston, Massachusetts, regarding the expansion to 4G services in the 700 MHz spectrum. One is a cell tower and the other is a rooftop of a 2½ story medical building that is busy with numerous wireless facility antennas. The permitting board contacted us for advice on whether the detailed application specifications in the zoning regulations could be substantially reduced. After gathering some basic information about the proposals, we recommended a reduced scope of information would be sufficient, reserving the right to ask for other things if fact finding led to it. After determining that the design of one of the facilities did not satisfy the *routine evaluation* exemption found in Table 1 of 47 CFR 1.1307, we advised the board and the applicant that the zoning regulations do call for a demonstration of compliance with FCC radio frequency emissions exposure regulations. Further, we observed that one of the new antennas was to be positioned at a roof access hatch, raising a possibility of non-compliance. The applicant quickly evaluated the situation and provided an explanation as to how compliance would be maintained. Verizon's safety expert thanked us for noticing.

Meanwhile the Verizon comments to this proceeding continue to disparage consultants with inappropriate generalizations, "[these ordinances that consultants helped draft] also tend to impose higher application fees and onerous set-back requirements that make siting in many areas impossible." We were

² www.ieee-wcet.org/employers.html - We believe that this certification is by far the most pertinent recognition of an individual's qualification to perform wireless service analysis; more so than, for instance, a Ph.D. in physics or a Professional Engineer's license, neither of which has any concentration in wireless communications technology.

among the first to address the question of the unintended consequences of arbitrary setbacks.³ We have on several occasions had maps made to illustrate the impact of a large setback on the available sites for wireless towers and other facilities to inform the planning process. We have seen large setbacks work satisfactorily in more rural towns where undeveloped land is ample. These things have to be considered on a case by case basis.

We are also not aware of any correlation between consultant involvement and the imposition of application fees. (AT&T's comments make similar charges.) We go to many municipalities for the first time, and some of them have adopted a fee structure well before we arrived. Each regulation is based on local sensitivities and is developed in an open, public process in which regulation changes are required by law to be publicly noticed, commented upon, revised, and voted on in due process. Some communities, concerned about the budgetary impacts of wireless facility proceedings have adopted fee structures based on their experience.

Verizon continues with its generalizations, "Other requirements [imposed by consultant backed ordinances] include the posting of performance bonds and unreasonable escrow deposits to cover the costs of consultants hired by the locality to review the application and advise the locality." With respect to performance bonds and other construction oriented regulations, we do not advocate for them. We do advise that regulatory burden of the regulations on the applicant are usually paralleled by administrative burdens on the municipality, and these burdens should be answered by the benefits of imposing the regulation in the first place. Again, through reasonable due process, each community adopts the criteria that they find to be important in maintaining the welfare, safety, health and quality of life of the community.

With respect to the "unreasonable escrow deposits," we see Verizon has generalized and has not provided any data as to their magnitude. If seeking to regulate escrow deposits and consultant fees, there must be transparency to the nature and magnitude of the alleged problem. We generally start with a basic estimate that covers the typical level of effort to review an application, perform some technical validation, generate a written report, and appear at one or two sessions of the public hearing, as requested by the permit granting authority. The complexity of the report varies with the complexity of the proposal. Certainly, antenna modifications typically require far less due diligence in review than a proposed new tower. We charge according to the work our boards request of us, which is usually requested in open session in which the applicant has an opportunity to discuss the scope of work.

Finally, Verizon recommends that the Commission get into the zoning business, suggesting, "In particular, the Commission should work with local governments, tower companies, and the wireless

³ The State of Wireless Facilities on Lower Cape Cod, p. 23, "...the application of an arbitrary setback to all facilities is an ineffective way to regulate facilities.

industry to craft a more balanced model zoning ordinance – one that protects the interests of the localities while streamlining local processes to allow for efficient siting of facilities... The Commission should then educate local zoning authorities about the benefits of adopting the model ordinance.” There is such a diversity of land use regulation and wireless facility development types and contexts, that we do not believe it is practicable to create a generic ordinance that would be meaningful to a nationwide audience. In two abutting towns in Massachusetts we have seen the extremes of the political spectrum, from a very libertarian wireless facility placement attitude of one, to an environmental perspective that intends to strongly protect the bucolic and scenic nature of the other. Such attitudes have a significant bearing on how local regulations are structured, such that a model ordinance may not play well with either. Instead, we believe it would be best for the dialog revolve around developing best practices. For instance, an informed discussion of large setbacks, how they work well, how they impede development, would educate the marketplace better than some dry language arrived at by consensus. There are plenty of non-governmental organizations that could join forces and create a venue for this dialog, without involving the Commission’s valuable resources.

Verizon continues with a discussion of “particularly those [ordinances] drafted by third party consultants” which make no distinction between material modifications and minor changes. We are sensitive to the concern that a minor change does not require the same depth of review and deliberative process than a major change or a new facility development. We suggest, however, that Verizon oversimplifies the role of zoning regulation of development, ““zoning” concerns... are focused on issues such as the location of structures in the rights-of-way or other key attributes of those structures such as the number or height of towers erected.” Zoning regulations address intensity, bulk, blight, compatibility of use, and other aesthetic concerns. Just as a sign ordinance might limit certain signs to certain positions and square footages, a wireless ordinance might regulate the total surface area of antennas.

In Stoneham, Massachusetts, we just reviewed the proposed design of an upgraded installation on an office building roof. New antennas are to be added. The use is allowed by right, so long as the exposed surface area meets the limit. The town counsel and the building inspector were looking for an informed assessment of the proposal to determine if a building permit can be granted without additional zoning relief.

It turns out, the site plan drawings were saying one thing about the placement of antennas and the site acquisition agent was in slight contradiction (additional versus replacement antennas and mounts). Our request for more details on the antenna proposal resulted in the submission of a set of cut sheets of four kinds of antennas, only one of which is shown on the site plans. It

seems will be educating the site acquisition agents about their client's facility design in order to make a simple square footage determination for compliance with the regulations.

Similar to the generalizations of Verizon regarding municipal wireless consultants, CTIA in its comments perpetuates the disparagement. "Another significant source of delay encountered at the local level is the unnecessarily elongated siting process that results when consultants are used by local authorities. Consultants are typically hired by municipalities to review tower proposals and the consultant's fee is often required to be paid by the applicant, rather than the municipality. Applicants complain that consultants frequently make multiple requests for additional information, and since the municipalities are not paying the consultants' fees, there is little meaningful oversight of the consultants' practices." As explained above, we do work requested by the regulating board, which is generally requested and discussed in open hearing with the applicant present to negotiate. On occasion it may turn out that additional work is necessary to make the most productive use of the upcoming hearing session, and we endeavor to keep the client and the applicant informed. In a recent case in Hollis, New Hampshire upon hearing a between meeting update of our fact gathering, the chairman asked us to assemble some draft language for approval conditions to speed up the discussion at the next session of the hearing. The applicant certainly benefited from the modest amount of additional work.

As for multiple requests from consultants, there may be a misperception about what happens in wireless facility permit hearings. Local boards are actually hearing two applications for each application tendered. It is well understood that if a board were to deny permission for a facility under the local and state permitting rules, they retain an obligation to assess the application by other criteria under the TCA. Essentially, the TCA application review is a simple test: is there a gap in wireless service? Is it significant? Are there alternatives (under the rubric applicable under controlling case law)?

As we peel back the onion on an application, it may be an iterative process. In Grafton, Massachusetts (which town was one of the subjects of PCIA's vague and unsubstantiated disparagement of consultants in its comments in this proceeding – see their Exhibit B), the applicant, a tower company, had been asked to follow up with a more rigorous due diligence review and documentation of alternatives. They did so, just about the same time we were engaged to assist the board in the application review. The tower was proposed next door to residences and in plain view to a neighborhood on a hillside. The due diligence report was quite thorough (to the applicant's credit), however one parcel that was technically viable and very well screened by dense woods, had been dismissed for lack of a response from the owner. The owner spoke to us after a session of the hearing and we encouraged him to reach out to the applicant and explained the basics of how tower site leasing works. This additional information was brought to the board's attention, which resulted in additional requests for information. Cutting to the conclusion, the owner and the applicant made a deal and the board and the applicant ultimately agreed on the

development of the alternative parcel. These sorts of alternatives analyses can naturally cause the board to have further questions for followup. As consultants, we do our best to anticipate needs and to work with applicants to make each hearing session as productive as possible, but the board drives the fact-finding process.

Considering the foregoing discussion, it is surprising that PCIA, in comments to this proceeding, should disparage consultants with this remark (their Exhibit B), V. Problematic Consultants... It is common practice for these consultants to ... impose superfluous application requirements (including proof of need)...”⁴ Demonstration of need goes directly to the question of a significant gap in service and a lack of alternatives. The National Wireless Facilities Siting Policy of the TCA makes it abundantly clear that a regulating board must gather “substantial evidence in a written record” upon which its decision must be based. Whether or not a local wireless ordinance contains “proof of need language” (some do and some do not) it remains incumbent on boards to gather facts. This assessment of a gap in service and of alternatives is a naturally iterative one, which may require several sessions of the public hearing to bring to completion. We have the TCA to thank for this additional complexity thrust on our local volunteer boards.

Finally, we comment on the role of the shot clock. In our experience, since its imposition, about half of the proceedings we have been involved in have had mutual extensions of time to complete fact finding. Verizon corroborates this in its footnote 7, “For example, in Verizon Wireless’ Northeast Area, there are currently six applications pending where Verizon and the local jurisdiction have agreed on one or more extensions of the shot clock time periods. In California, Verizon Wireless has agreed to extensions on at least 25 occasions.” We suggest this is not a sign of municipal intransigence. In our experience, it is an indication that the applicants are in agreement that under each set of circumstances, it was reasonable to extend the fact gathering time for the board to complete collection of substantial evidence for the purposes of the TCA. We find the shot clocks get the attention of boards in our area, and give them an extra incentive to move deliberately and expeditiously.

David P. Maxson, WCP®

⁴ Also in Section II of Exhibit B, PCIA raised the “proof of need” issue, “In some jurisdictions, an applicant must prove the need for the addition antennas in order to be granted permission for new towers and/or attachments.”